

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-10 (Canceled)

11. (Currently amended): A fiber-optic interferometric rotation speed sensor device comprising:

a laser source comprising an optical cavity including a gain lasing medium; combined with

an optical fiber; and [[with]]

a device for making the beam from the laser source interfere with the beam coming from the optical fiber;

wherein the laser source is an optical cavity having a gain lasing medium and wherein said source includes, along the path of the beam output by the laser optical cavity,

a beam splitter device disposed in a path of a beam output by the optical cavity, associated with a reflecting device, the beam split off the beam splitter splitting off a split off beam from the beam output by the laser cavity being sent into one of the ends and directing the split off beam into a first end of the optical fiber, the other end of which is directed the optical fiber being configured and arranged to conduct the split off beam and direct it via a second end of the optical fiber into toward the gain lasing medium that forms to induce interference within the optical cavity and form a nonlinear mirror, the splitter device being followed by the non-linear mirror directing a conjugate beam into the second end of the optical fiber; and

a detector arranged with the beam splitter device and the first end of the optical fiber to receive the conjugate beam via the beam splitter.

12. (Currently amended): The device as claimed in claim 11, ~~wherein the further comprising a reflecting device associated with the splitter is different from the latter and is~~ the reflecting device comprising a mirror.

13. (Currently amended): The device as claimed in claim 11, wherein the splitter [[is]] comprises a diffraction grating operating both in reflection and in transmission, thus acting as a reflecting device.

14. (Currently amended): The device as claimed in claim 12, wherein the position of said mirror is adjusted selected so as to obtain a $\pi/4$ phase shift between the beam reflected by said mirror and the beam coming from the optical fiber.

15. (Currently amended): The device as claimed in claim 13, wherein the grating [[is]] comprises an index grating.

16. (Currently amended): The device as claimed in claim 13, wherein the grating [[is]] comprises a relief grating.

17. (Currently amended): The device as claimed in claim 13, wherein the grating [[is]] comprises a grating resulting from [[the]] a multiplexing of [[an]] index grating characteristics and of a relief grating characteristics.

18. (Currently amended): The device as claimed in claim 11, wherein the optical fiber [[is]] comprises a multimode fiber.

19. (Currently amended): The device as claimed in claim 11, wherein two quarter-wave plates and a polarizer are placed included in the [[laser]] optical cavity.

20. (Currently amended): The device as claimed in claim 19, wherein the optical fiber [[is]] comprises a non-polarization-maintaining fiber.